CENTER ROUTING SLIP

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ACDA			8 Dec

TO		INITIALS	DATE	REMARKS
DIRECTOR	3			
DEP/DIRECTOR	3			
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Mr. [redacted]				25X1
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CH/TSSG				
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CH/SSD/TSSG				
PERSONNEL				
LOGISTICS				
TRAINING				
RECORDS MGT				
SECURITY				
FINANCE				
DIR/IAS/DDI				
CH/DIAXX-4				
CH/DIAAP-9				
CH/SPAD				

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FIELD TEST PROGRAM

PHASE 1 TEST PLAN

FIELD TEST FT-56

VERFICATION AND INSPECTION OF MISSILE SUBMARINE MODIFICATION (U)

SEPTEMBER 1969

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

GROUP 1
EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

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PHASE I TEST PLAN

FIELD TEST FT-56

VERIFICATION AND INSPECTION OF MISSILE SUBMARINE MODIFICATION (U)

September 1969

Field Operations Division of the Weapons Evaluation and Control Bureau assumes overall responsibility for the development of this document.

This plan is part of a broad program of research on inspection and verification and does not express a U. S. position.

Prepared By

FIELD OPERATIONS DIVISION
WEAPONS EVALUATION AND CONTROL BUREAU
UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

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SYNOPSIS

The purpose of FT-56 is to determine the ability of unilateral intelligence and selective direct observation to detect upgrading of the missile system of ballistic missile submarines.

The objectives of the test are to determine (1) the observables applicable to the upgrade process, (2) the number and frequency of inspections required, (3) the effectiveness of selective direct observation and the minimum degree of access required, (4) the security implications of a visit by a foreign inspector to a U.S. submarine shipyard, (5) evasion techniques and their effectiveness.

The test will be conducted in two phases. Phase I will develop observables and a narrative of the process of upgrade of the Polaris missile system to Poseidon concurrent with photographic coverage, both aerial and ground. In addition, the observables will be translated into postulated procedures for inspection of Soviet missile submarine upgrade. The procedures will be promulgated in the report of Phase I.

If the review of the results of Phase I indicates that field testing of the procedures is necessary and feasible, the procedures will be tested during Phase II on another Polaris submarine undergoing conversion.

This test plan describes only Phase I of FT-56 in detail. Approval of the test plan will authorize conduct of only Phase I.

The Phase I operations in the field will commence in December 1969. The Phase II field test will commence approximately one year later.

Personnel requirements are two permanent WEC/FO staff members for the complete test cycle. No requirement exists for temporary additional duty personnel for Phase I.

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Two TDY personnel will be required from the planning period through the analysis period of Phase II. Two additional personnel are required only during the conduct of the Field Test in Phase II (approx. 6 months).

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I. INTRODUCTION

A. BACKGROUND

On January 21, 1964, President Johnson, in a message to the ENDC, proposed "to explore a verified freeze of the number and characteristics of strategic nuclear offensive and defensive vehicles." This was elaborated by Mr. Fisher in a statement to the ENDC on 16 April 1964. Included in this statement was a U. S. proposal to freeze " . . . sea based surface to surface missiles having a range of 100 kilometers or greater, together with their associated launchers." In March of 1967, President Johnson announced that Premier Kosygin had responded to his letter and had agreed to consider discussions on limitations of offensive and defensive missiles. In April 1968, the U.S.S.R. presented to the U.N. a nine point disarmament program, and in July 1968, the U.S. and U.S.S.R. announced agreement to hold early talks on offensive and defensive strategic weapons systems. The invasion of Czechoslovakia by the U.S.S.R. in August 1968 arrested any further developments. When President Nixon was inaugurated in January 1969, the U.S.S.R. reaffirmed its willingness to conduct talks on limitation of strategic offensive and defensive missiles. Currently (summer 1969), events indicated a renewal of attempts to conduct these discussions.

B. DISCUSSION

A recurring problem in establishing a position for strategic weapon limitations is the difficulty of defining a verification system that accounts adequately for a new technology brought about through research. Restrictions for strategic arms limitations must be securely anchored to the current state of the art in weapons systems technology simply because it is not possible to anticipate the full range of possible advances in the applicable sciences. This has left the U.S. no recourse but to recognize that science and technology will continue to advance, and to concentrate on an attempt to restrict the limitation of strategic arms to current, definable systems. Thus, while limiting numbers or types of strategic systems appears possible, limiting

their improvement does not. The indicators of increased system capability are of great and continuing concern. It is toward the solution of this problem within the area of missile launching submarines, that this field test is directed.

The current situation with respect to submarine launched strategic missiles is dynamic. The U.S.S.R. is deploying a fleet of Polaris-type ballistic missile submarines. The U.S. has commenced a program of upgrading Polaris to Poseidon. The Poseidon program offers an opportunity to examine the U.S. missile submarine overhaul and upgrade process to identify arms control indicators that may apply to the U.S.S.R. modification effort which is surely to follow. This approach is valid from the standpoint of national means of verification as well as selective direct observation, and leads to the possibility of a constructive association of the two techniques during the test process.

II. TEST DESCRIPTION

A. ASSUMED AGREEMENT PROVISIONS

FT-56 will be based upon an assumed arms control agreement in which the participants agree to limit the number and type of missile (cruise and/or ballistic) submarines. The upgrade of current systems to more advanced systems is prohibited by the postulated agreement.

Inherent in any limitations agreement is the eventual requirement to replace submarines as they become obsolete through age. It is necessary, in this event, to verify that the replacement submarine is one of the same type (i. e. ballistic or cruise missile) and that the weapon system has not been upgraded.

It is assumed that selective direct observation is included in the agreement in order to supplement our national capabilities.

B. TEST PURPOSE

To determine the ability of unilateral intelligence supported by selective direct observation to detect upgrading of the missile system capability of ballistic missile submarines.

C. TEST OBJECTIVES

The broad objectives of this field test are to determine the following for missile system upgrade:

1. The observables indicative of upgrade.

2. An informational frame of reference for certain national capabilities so as to determine the nature and degree of upgrade.

3. The number and frequency of inspections required.

4. The capability of selective direct observation of missile submarines to detect an upgrading of the missile system.

5. The minimum degree of access required for effective selective direct observation.

6. The security implications of a visit by a foreign inspector to a U.S. submarine shipyard.

7. The logical evasion steps that could be taken to confuse or mislead selective direct observation and national capabilities.

D. FIELD TEST

1. Phase I

This test plan describes only Phase I of FT-56 in detail. Approval of the test plan will authorize conduct of only Phase I.

Phase I will be a Field Operations Division in-house study which will monitor the conversion of a Polaris submarine to Poseidon capability. The general objective is to obtain valid indicators and information upon which to base field operations for Phase II. Coordination between Field Operations Division of ACDA/WEC, the shipyard, the ship, and the Naval Reconnaissance and Technical Support Center (NRTSC) is anticipated. It is emphasized that the effort is to be conducted on a not-to-interfere basis with shipyard schedules. Utilization of shipyard photographic facilities on a reimbursement basis is anticipated. Liaison with the shipyard and the ship personnel will be required for information on conversion schedules and for timing of visits and other activities.

2. Phase I Objectives

Specific objectives to be attained during Phase I are:

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a. Develop a draft checklist of observables that are indicative of the upgrade process.

b. Develop a narrative of construction progress with ground photography of pertinent events.

c. If timing and priorities permit, make an effort concurrent with b. above, to identify those specific gaps in national capabilities where knowledge, in real time, of the conversion process and varied angle photography can be of assistance. Preliminary contacts with NRTSC indicate that correlation of these means offers the potential for valid contributions to national efforts. Close coordination through NRTSC is planned in the prosecution of the effort.

d. Take aerial and hand held ground photography at opportune intervals during the overhaul process. The timing of this photography will be determined by FO as advised technically by NRTSC.

e. Complete as much of the above as feasible during the winter months of 1969-1970 on the SSBN to be converted at Portsmouth Naval shipyard.

f. Develop a report of the results of Phase I, including a recommendation on the feasibility and desirability of conducting Phase II.

3. Phase II (Information Only)

If a review of the results of Phase I indicates that field testing is necessary and feasible, the information will be translated into inspection procedures. Inspection teams will then use these procedures and checklists with another Poseidon conversion ship as the inspection target. It is preferable that Phase II be conducted at another shipyard to obtain greater universality of results and to highlight differences in shipyard procedures, where these differences are pertinent.

The procedures and indicators evolved in Phase I will be revised as necessary to incorporate the lessons learned during Phase II.

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III. RESOURCE REQUIREMENTS

A. PERSONNEL

1. Two WEC/FO permanent staff members will be required continuously for the conduct of Phase I and control of the field test during Phase II.

2. NRTSC representatives are required intermittently during Phase I and II to direct and to prosecute photographic coverage at the shipyard.

3. Phase II (Information Only)

a. Additional temporary duty military personnel will be required to assist in preparation of the operations plan for Phase II, to act as inspectors at the test site, and in the initial analysis of the test data. The estimated requirements are as follows:

	Operations Plan 6 weeks	Field Test 24 wks	Initial Analysis 6 weeks
Planning Staff	2	2	2
Inspectors	-	2	-
Total	2	4	2

b. Qualifications desired for temporary duty personnel are projected as follows:

	Service	Rank	Experience
Planning Staff	Navy	LCDR	Missile, submarine
	Navy	LT	General
Inspectors	Navy	LCDR	Missile, general
	Navy	LT	General

B. DEPARTMENT OF DEFENSE SUPPORT

Department of Defense support will be required for the following tasks:

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1. Access to the shipyard and to the ship undergoing conversion on a not-to-interfere-with ship-schedules basis.

2. Authorizing liaison with the shipyard representatives for scheduling information and with the ship for timing of visits. Liaison with other conversion shipyards for discussions of conversion schedule differences will also be required.

3. Access by FO staff members during Phase I and II to shipyard conversion schedules and to documentary information on the Poseidon weapon system and conversion process.

4. Photographic and technical services on a reimbursable basis from NRTSC.

5. Providing required TDY personnel on a reimbursable basis (Phase II only).

6. Photo-interpretation services of NRTSC for aerial photography.

7. Aerial reconnaissance services on a reimbursable basis.

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*NRTSC Representatives

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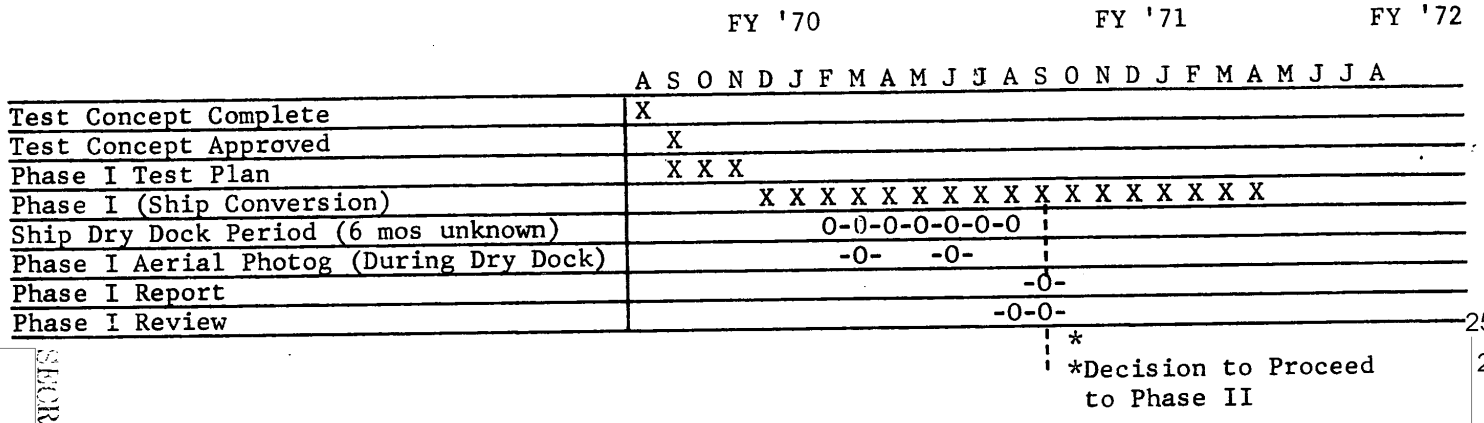
IV. SCHEDULE

PHASE I



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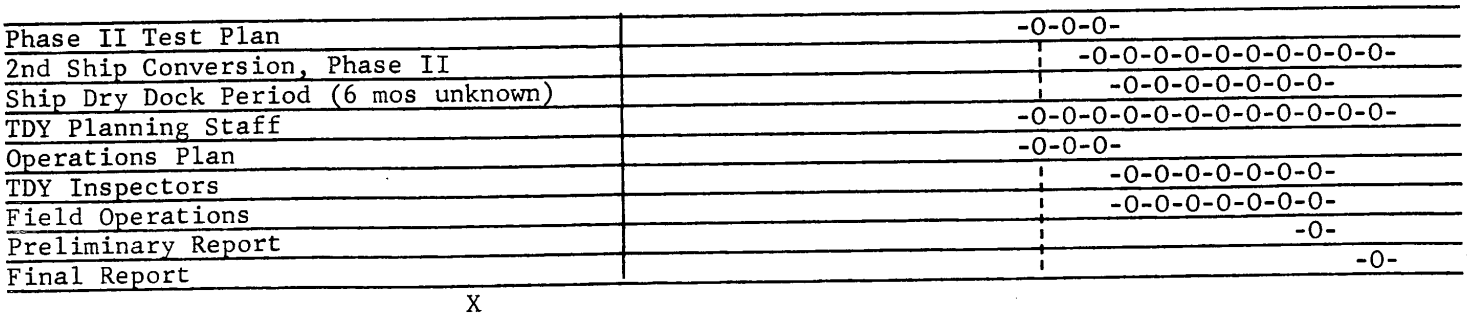
PHASE II (INFORMATION ONLY)



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-0- Tentative Schedule
(Dependent on Ship Schedules)

FIGURE 1. Test Schedule, FT-56

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V. DIVISION OF RESPONSIBILITY

A. U.S. ARMS CONTROL AND DISARMAMENT AGENCY

1. Phase I. The Arms Control and Disarmament Agency will provide the funds required.

The Field Operations Division will be responsible for:

a. The overall planning, operations, coordination and analyses.

b. Preparation of a Phase I Report incorporating recommendations regarding the feasibility and desirability of conducting Phase II.

2. Phase II (Information Only). The Arms Control and Disarmament Agency will provide the funds required.

The Field Operations Division will be responsible for the overall test planning, operations, analysis and reporting of the test.

B. DEPARTMENT OF DEFENSE

1. Phase I. The Department of Defense will be responsible for the support required under Section III, Item B, Department of Defense Support.

2. Phase II (Information Only). The Department of Defense will be responsible for support similar to that required in Phase I; and in addition, the provision of required TDY personnel on a reimbursable basis.

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